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Lower Parel (West)  
Mumbai – 400 013

THE PATENTS ACT, 1970

IT IS HEREBY CERTIFIED THAT, the annex is a true copy of Application and Provisional Specification filed on 12/04/2004 in respect of Patent Application No.438/MUM/2004 of DR. THAKKAR NAVIN NARSINHBHAI, 2/A, AGAM NIGAM NAVNIRMAN CO.OP.SOCIETY, ANANDWADI, ISANPUR, AHMEDABAD – 382443, GUJARAT STATE, INDIA, AN INDIAN NATIONAL.

This certificate is issued under the powers vested in me under

Section 147(1) of the Patents Act, 1970.

Dated this 16<sup>th</sup> day of May 2005.

(A. T. PATRE)

ASST. CONTROLLER OF PATENTS & DESIGNS.

**THE PATENTS ACT, 1970  
(39 of 1970)  
APPLICATION FOR GRANT OF A PATENT  
[See sections 5(2), 7, 54 and 135 ; rule 39]**

1. I,  
(a) Dr. THAKKAR NAVIN NARSINHBHAI  
(b) 2/A, Agam Nigam Navnirman Co. Op. Society,  
Anandwadi, Isanpur, Ahmedabad-382443,  
Gujarat State, India  
(c) An Indian National,

2. hereby declare-

- (a) that I am in possession of an invention titled **"FLEXIBLE NAIL FOR FRACTURE OF LONG BONES"**  
(b) that the Provisional specification relating to this invention is filed with this application.  
(c) That there is no lawful ground of objection to the grant of a patent to me.

3. further declare that the inventor for the said invention is

- (a) Dr. THAKKAR NAVIN NARSINHBHAI  
(b) 2/A, Agam Nigam Navnirman Co. Op. Society,  
Anandwadi, Isanpur, Ahmedabad-382443,  
Gujarat State, India  
(c) An Indian National.

4. That my address for service in India is as follows:

**Y.J. TRIVEDI and JATIN Y. TRIVEDI  
Patent & Trade Mark Attorney & Advocate.  
"YAGNAJYOT" Bungalow,  
Opp. Kashiram Agrawal Hall,  
B/h. Jahanvee Restaurant, Polytechnic,  
Ahmedabad-380 015, Gujarat State, India**

5. That to the best of my knowledge, information and belief the fact and matters stated herein are correct and that there is no lawful ground of objection to the grant of patent to me on this application.

6. Following are the attachment with the application:

(a) Provisional specification (3 copies).

(b) Form of authorization - Form 26.

(c) Fee Rs.                      in cheque bearing No.                      date                      on ICICI Bank.

I request that a patent may be granted to me for the said invention.

Dated this 6<sup>th</sup> Day of April, 2004.

438/मुंबई/2004  
MUM

*N. N. Thacker*

17 2 APR 2004

(Dr. THAKKAR NAVIN NARSINHBHAI)

To  
The Controller of Patents  
The Patent Office,  
Mumbai.

*438/mum/2004*  
*12/4/2004*

Received Rs. 750/- in Cash  
by cheque/M.O./P.O. on 12/4/04  
Vide Entry No. 7627 in the  
Register of Inventors, Mumbai.

*[Signature]* 1808

on ICICI Bank.

FORM - 2

THE PATENTS ACT, 1970  
(39 of 1970)

PROVISIONAL SPECIFICATION  
(SECTION 10; rule 13)

ORIGINAL

"FLEXIBLE NAIL FOR FRACTURE OF LONG BONES"

Dr. THAKKAR NAVIN NARSINHBHAI

An Indian National having his address at

2/A, Agam Nigam Navnirman Co. Op. Society,  
Anandwadi, Isanpur, Ahmedabad-382443,  
Gujarat State, India.

The following specification particularly describes the  
nature of this invention:-

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This invention relates to FLEXIBLE NAIL FOR FRACTURE OF LONG BONES. This invention particularly relates to FLEXIBLE NAIL FOR FRACTURE OF LONG BONES which has conical tip at both ends for easy gliding.

Presently used flexible nailing systems are:

1. Ender's nailing : These are flexible (but comparatively stiffer) nails made of stainless steel having lowest diameter of 3.5 mm and of diff length, having fixed curves basically designed for adult femur. It has slanting tip at one end and other end is having eye for removal later on. The problem associated with this nails is as under: -

- It is very stiffer due to its constructional material.
- Nails with diameter lesser than 3.5 mm are not available, which is sometime required in paediatric shaft long bone fractures (eg. Femur shaft)
- It has fixed curves designed, so it is pre bent according to adult femur and thus have no intraoperative latitude to surgeon for bending according to fracture
- Due to its fixed pre bent curves surgeon requires two exposures medial and lateral to counterbalance the opposite curve.

2. Titanium Elastic Nails : These are quite flexible nails made of titanium metal having diff diameter from 2mm to 3.5 mm. It has one end tip specially bent flat like hockey stick shape and other end is of rounded tip. It is also of universal length. The problem associated with this nails is as under: -

- Titanium material is very soft and may break on bending too much.

- Hockey stick flat lip at end makes gliding difficult in medullary canal.
- As the titanium is very costly metal these nails are not preferred by most of the people.

#### **Objects of the invention:**

So with the goal of providing FLEXIBLE NAIL FOR FRACTURE OF LONG BONES which gives high strength without sacrificing its flexibility inventor has invented this invention.

The further object of this invention is to provide a FLEXIBLE NAIL FOR FRACTURE OF LONG BONES which is easy to glide in medullary canal.

The further object of this invention is to provide a FLEXIBLE NAIL FOR FRACTURE OF LONG BONES which allows intraoperative surgical latitude of bending, allowing surgeon to have single lateral entry

The further object of this invention is to provide a nail which is cost effective and so a normal man can also afford it.

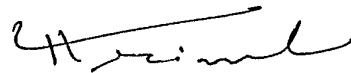
#### **Description of the system: -**

The invention is described as under:

FLEXIBLE NAIL FOR FRACTURE OF LONG BONES is a new design of stainless flexible nails for femoral shaft fractures of children and other long bone shaft fractures in children. Intramedullary flexible nailing has become a preferred method for fracture of shaft of femur in children above the age of 5 years. Presently used flexible nailing systems of Enders and Titanium Elastic Nails have their own disadvantages. These new N nails are devised from stainless steel material which is used for other routine implants, and to get flexibility it has passed through special cold process. They are of universal length with different diameter

special cold process . They are of universal length with different diameter having special feature, path finder conical tip at both ends for easy gliding. After introducing nail of appropriate length , it is cut keeping 1.5 cm out making small superficial cuts on nail to give knurling type effect for easy removal of nail later on.

Dated this 6<sup>th</sup> day of April 2004.



(Y.J. TRIVEDI)

Authorised Agent of the Applicant

To,  
The Controller of Patents,  
The Patent Office, Mumbai.